

Remarks/Arguments:

Claims 1-4 are presently pending. Claim 1 has been amended. Reconsideration is respectfully requested in view of the above amendments and the following remarks.

Claim Rejections Under 35 U.S.C. §§ 102 and 103

Claims 1, 2 and 4

Page 2 of the Office Action sets forth "Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Harper 5,496,156." Applicants respectfully submit that this rejection is overcome by the amendments to the claims for the reasons set forth below.

Applicants' invention, as recited by claim 1, includes features which are neither disclosed nor suggested by Harper, namely:

an intake port...

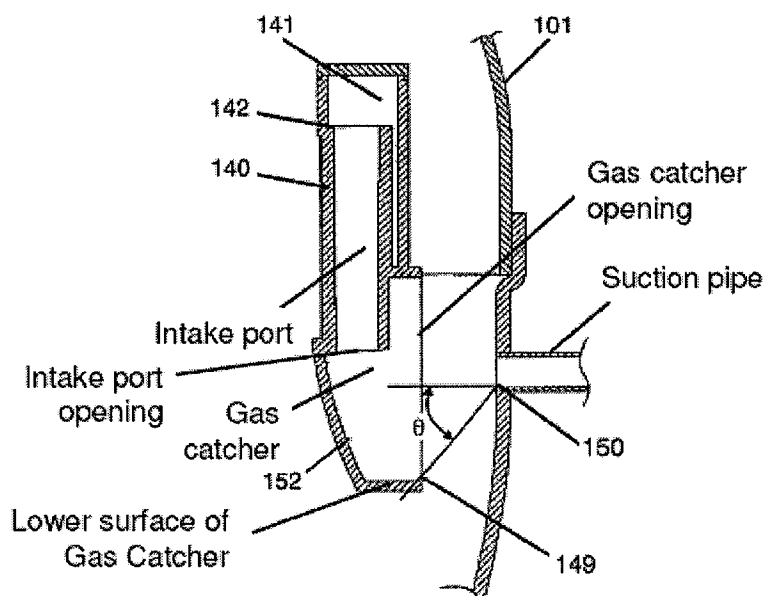
a gas catcher surrounding the intake port and having an opening facing an orifice of the suction pipe ...

wherein the opening of the gas catcher has...a lower end...defined by a lower surface of the gas catcher, and

the intake port has an opening facing the lower surface of the gas catcher.

This means that the gas catcher opening faces the suction pipe and the intake port opening faces toward the lower surface of the gas catcher. This feature is described in the originally filed application, for example, at page 5, lines 5-16, and FIG. 2. No new matter is added. Exemplary features of claim 1 are illustrated in FIG. 2 of the original application, which is reproduced below. This figure has been marked up for illustrative purposes, only.

FIG. 2



Harper is directed to a suction muffler for a hermetic compressor. As illustrated in FIGS. 1 and 2, for example, Harper discloses a hermetic compressor 10 having a suction muffler 80. Suction muffler 80 has an inlet port 102 facing suction pipe 55. Inlet port 102 is formed by a funnel-like portion of muffler front wall 82 that defines an opening. See Harper at column 4, lines 15-23, and FIGS. 1 and 2.

As discussed during the interview, the Examiner interprets the funnel-like portion of inlet port 102 as corresponding to the gas catcher of claim 1, and the opening of inlet port 102 as corresponding to the intake port of claim 1. Harper discloses that the opening of inlet port 102 is oriented in the center of the funnel-like portion of inlet port 102. Further, as illustrated in FIG. 2 of Harper, the opening of inlet port 102 faces outward from suction muffler 82 toward suction pipe 55. Similarly, the outer edge of the funnel-like portion of inlet port 102, which corresponds to the gas catcher opening, also faces suction pipe 55. The opening of inlet port 102 does not face any surface of the funnel-like portion of inlet port 102. This is different from the claimed invention because claim 1 requires that the opening of the intake port face the lower surface of the gas catcher. Accordingly, Harper fails to disclose, teach, or suggest "the intake port has an opening facing the lower surface of the gas catcher," as recited in claim 1.

Page 3 of the Office Action sets forth "Claims 1-2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art (AAPA) in view of Harper...." Applicants respectfully submit that this rejection is overcome by the amendments to the claims for the reasons set forth below.

As illustrated in FIGS. 7 and 8 of the present application, the AAPA discloses a suction muffler 30 having an intake port 36 and a gas catcher 38. Gas catcher 38 faces a suction pipe 28. See the original application at page 1, line 25 to page 2, line 17.

Applicants respectfully submit that the inlet port of Harper is not properly combinable with the intake port and gas catcher of the AAPA. As described above, Harper discloses that both the opening of inlet port 102 (corresponding to the intake port of claim 1) and the outer edge of the funnel-like portion of inlet port 102 (corresponding to the opening of the gas catcher) face suction pipe 55. See FIG. 2 of Harper. Harper discloses that intake port 102 has this structure "to allow a semi-direct suction intake to be created." See Harper at column 4, line 19. Accordingly, Harper requires the inlet port opening (i.e., the intake port) and the inlet port funnel (i.e., the gas catcher) to both face toward the suction pipe to allow a semi-direct suction from suction pipe 55 through inlet port 102 and into suction muffler 80.

In contrast, the AAPA discloses that only gas catcher 38 has an opening facing suction pipe 29. See FIG. 8 of the original application. The AAPA discloses that this allows the gas catcher 38 to catch refrigerant gas from suction pipe 28. The refrigerant is then drawn into the suction muffler 30 through intake port 36 as refrigerant is drawn into intermittently drawn into the compression chamber 9. See the original application at page 2, lines 4-11. Accordingly, the AAPA requires the intake port 36 to face the lower surface of the gas catcher 38, in order to intermittently draw in refrigerant that is caught at the gas catcher's lower surface.

Applicants submit that the combination of the inlet port 102 of Harper with the intake port 36 and gas catcher 38 of the AAPA would render Harper unsuitable for its intended purpose of allowing a semi-direct suction intake to be created between the suction pipe 55 and the suction muffler 80. Accordingly, Applicants submit that the structure required of the inlet port of Harper is not properly combinable with the structure required by the AAPA.

It is because Applicants' claimed invention includes an intake port having an opening facing the lower surface of the gas catcher that the following advantages are achieved:

Since the density of this refrigerant gas is high at low temperatures, the refrigerant gas falls obliquely downward from the orifice of suction pipe 109 into hermetic container 101, and thus gas catcher 144 can efficiently catch the refrigerant gas. The low-temperature refrigerant gas cause by gas catcher 144 is tentatively insulated from a[] high-temperature atmosphere inside hermetic container 101. The refrigerant gas therefore stays at low temperatures when the refrigerant gas is taken into muffling space 141 through intake port 143.

See the original application at page 5, line 21 to page 6, line 2.

Accordingly, for the reasons set forth above, claim 1 is allowable over the art of record. Withdrawal of the rejection and allowance of claim 1 is respectfully requested.

Claims 2 and 4 include all of the features of claim 1, from which they depend. Thus, claims 2 and 4 are also allowable over the art of record for at least the reasons set forth above with respect to claim 1. Withdrawal of the rejection and allowance of claims 2 and 4 is respectfully requested.

Claim 3

Page 5 of the Office Action sets forth "Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over [the AAPA] in view of Harper...and in further view of Lee 5,288,212." Applicants respectfully submit that this rejection is overcome by the amendments to the claims for the reasons set forth below.

Claim 3 incorporates all of the features of claim 1, from which it depends. Applicants respectfully submit that Lee fails to make up for the deficiencies of the AAPA and Harper with respect to claim 1.

Applicants' invention, as recited by claim 3, includes features which are neither disclosed nor suggested by the art of record, namely: "an inner face of the gas catcher is concavely curved."

Lee is directed to a cylinder head of a hermetic reciprocating compressor. As illustrated in FIG. 7, for example, Lee discloses a suction cover 50 having a horizontal part 51, a vertical part 52, and an inlet part 53. Vertical part 52 defines a suction chamber 52b. Suction chamber 52b is located within the suction cover 50 and behind the inlet part 53. Inlet part 53 faces a suction pipe 41. See Lee at column 7, lines 31-56.

The Office Action acknowledges that the AAPA and Harper fail to teach the feature of "the gas catcher being concavely curved." Applicants respectfully submit that the addition of Lee fails to make up for the deficiencies of the AAPA and Harper with respect to claim 3.

Applicants submit that inlet part 53 corresponds to the intake port of claim 1. Lee fails to disclose a gas catcher surrounding inlet part 53 and having an opening facing an orifice of suction pipe 41. Lee must therefore fail to disclose a gas catcher having a inner face that is concavely curved. According, the AAPA in view of Harper and Lee fails to disclose, teach, or suggest "an inner face of the gas catcher is concavely curved" as recited in claim 3.

It is because Applicants' claimed invention includes a gas catcher having a concavely curved inner face that the following advantages are achieved. "Inner face 152 of gas catcher 144 is concavely curved to smoothly guide the refrigerant gas to intake port 143." See the original application at page 5, lines 14-16.

Accordingly, for the reasons set forth above, claim 3 is allowable over the art of record. Withdrawal of the rejection and allowance of claim 3 is respectfully requested.

In view of the amendments and arguments set forth above, the above-identified application is in condition for allowance, which action is respectfully requested.

Respectfully submitted,

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